

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– VI (New) EXAMINATION – WINTER 2019****Subject Code: 2162904****Date: 06/12/2019****Subject Name: Technical Textile-I****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) How are technical textiles different from traditional textiles?	03
	(b) Define nonwovens. Give the sequence of operation followed for manufacturing of nonwovens.	04
	(c) Write in detail about the fibres used for production of technical textiles.	07
Q.2	(a) What is a textile reinforced composite?	03
	(b) Compare coating and lamination.	04
	(c) Write in detail about the technical fabric structure woven and knitted fabrics with reference to their use as technical textiles.	07
	OR	
	(c) How are fibres prepared for nonwoven fabric manufacturing?	07
Q.3	(a) What is hydroentanglement?	03
	(b) Compare parallel laying and cross laying.	04
	(c) Write in detail about the principle and working of carding machine used in nonwoven fabric manufacturing sequence.	07
	OR	
Q.3	(a) Draw a neat sketch of air laying machine and name the parts.	03
	(b) Write briefly about Tyvek.	04
	(c) What is needlepunching? Explain with a neat sketch and state the applications of needle punched fabrics.	07
Q.4	(a) State the advantages of thermal bonding.	03
	(b) What are geotextiles?	04
	(c) Draw a neat sketch of wet-laying process, mention the applications of wet-laid nonwovens and explain the working of the machinery.	07
	OR	
Q.4	(a) What is chemical bonding?	03
	(b) Give the classification of medical textiles.	04
	(c) Compare the spun laid web production and melt blowing process.	07
Q.5	(a) Write briefly about coloration of technical textiles.	03
	(b) Give the analyses of woven composites.	04
	(c) Which are the different techniques of coating? Explain with neat sketches.	07
	OR	
Q.5	(a) Name the coating material used for coating of a technical textile.	03
	(b) State the chemical processes carried out on technical textiles. Write briefly about any one process.	04
	(c) Which are the mechanical finishes given to technical textiles? Explain.	07
